

April 29, 2015

Mr. Dinh Vo  
Remediation Project Manager  
NASA/John F. Kennedy Space Center  
Mail Code: TA-A4B  
Kennedy Space Center, Florida 32899

**Subject: Final Report - Artesian Well Abandonment at Launch Complex 39A  
John F. Kennedy Space Center, Florida  
Contract No. NNK12CA14B-NNK14CA26T**

Dear Mr. Vo:

Jacobs Engineering Group, Inc. and CORE Engineering & Construction, Inc. (Jacobs-CORE) are pleased to submit this letter report documenting well abandonment activities at one site located at John F. Kennedy Space Center (KSC), Florida. The well abandonment activities documented in this report were conducted at Launch Complex 39A.

## **1.0 BACKGROUND**

On September 25, 2014, the National Aeronautics and Space Administration (NASA) Remediation Project Manager (RPM) requested that Jacobs-CORE complete abandonment of an artesian well under Contract No. NNK12CA14B, Task Order No. 06. The site and task were:

- Launch Complex 39A: Abandon the artesian well located on the liquid oxygen (LOX) side of site, as the well is no longer utilized.

Project expectations and site-specific assignment details, including site access and notification requirements, were discussed between the NASA RPM and Jacobs-CORE personnel during a kick-off meeting held on October 30, 2014 at KSC. Logistics, schedules, and safety were also key topics discussed during the meeting. The abandonment method for the artesian well was communicated by the NASA RPM to be “abandon-in-place”, in the same manner as was done for the artesian well previously abandoned on the liquid hydrogen (LH2) side of the site in December 2012.

An addendum (Addendum No. 5) to the Site-Specific Safety and Health Plan (SSSHP) for Contract No. NNK12CA14B was issued by Jacobs-CORE in November 2014 to address work to be performed under Task Order No. 06. The SSSHP addendum was coordinated with the NASA RPM and was accepted by NASA Safety and Environmental Health in November 2014.

## **2.0 LAUNCH COMPLEX 39A**

Launch Complex 39A is located east of the Vertical Assembly Building (VAB) area at KSC, adjacent to the Atlantic Ocean (**Figure 1**). The launch complex dates back to the 1960s and has been used for NASA’s Apollo and Space Shuttle programs. The launch complex is currently being leased to SpaceX where it is being modified to support future launches. Under environmental

regulation, Launch Complex 39A is designated as Solid Waste Management Unit (SWMU) 008, and is being managed for residual soil and groundwater contamination.

The artesian well tasked for abandonment was located on the LOX side (northwest area) of the launch complex (**Figure 2**). The exact date of well installation is unknown. The well was no longer in use at the time of the abandonment request, but was previously utilized under St. Johns River Water Management District (SJRWMD) consumptive use permit (No. 50054) for the Floridan Aquifer. The exact construction details of the LOX artesian well were also unknown; however, a similar-type artesian well was previously located on the LH2 side of the site, which was abandoned in 2012. Based on discussions with the NASA RPM and review of the LH2 artesian well abandonment completion report, the LH2 artesian well was reported to be an 8-inch diameter, 330-foot deep well. The NASA RPM communicated that the LOX artesian well was likely to be an 8-inch diameter, 380-foot deep well. This information was used for scoping, and was subsequently confirmed to be substantially accurate. No additional information could be found for the LOX artesian well using the NASA Remediation Information System (RIS).

The following sub-sections detail abandonment activities completed for the LOX artesian well located at Launch Complex 39A.

## **2.1 Pre-Abandonment Activities**

Several activities were completed prior to initiating abandonment. The following sections outline these activities.

### **2.1.1 Permits**

Various permits were obtained in preparation of well abandonment activities, which included:

- **Well Abandonment Permit:** A well abandonment permit was issued by SJRWMD in November 2014 (Permit No. 140159-1). Environmental Drilling Service, Inc. (EDS; Florida Water Well Contractor License Number 2406), which was subcontracted to perform the abandonment, applied for and obtained the permit.
- **Dig Permit:** A KSC excavation permit request (EPR) was submitted through the EPR Administrator on November 11, 2014. The request (No. 17195) was approved on November 12, 2014. The excavation permit inspector (EPI) was contacted prior to field work to mark utilities and obtain final signature on the permit. Environmental review comments regarding soil and groundwater constraints at the site were communicated with the point of contact (POC) designated on the permit prior to initiating field work. Correspondence was obtained from the POC that contaminated soil adjacent to the well had been excavated since the comment was made on the dig permit; therefore, no additional guidance was necessary.
- **Hot Work Permit:** A hot work permit was issued by the KSC Fire Inspector on December 8, 2014 (Permit No. 127775; renewed under Permit Nos. 128279 and 128915). The purpose of the hot work permit was to account for torching and grinding necessary to disassemble the well's aboveground piping.

### **2.1.2 Electrical Switchbox Removal**

In November 2014, the NASA RPM coordinated for power to be disconnected and for the associated electrical switchbox to be removed from the LOX artesian well. This was coordinated through an on-base engineering support request. Confirmation that power was disconnected and that the electrical switchbox was removed, was received via email by the NASA RPM on January 15, 2015. This was also confirmed during a site visit prior to mobilizing for the abandonment.

### **2.1.3 Water Controls Measures**

Water control measures became an integral part of the planning process to adjust to changing site conditions. In November 2014, the NASA RPM and Jacobs-CORE personnel visited the site to locate the artesian well and inspect the area for access. At the time of the site visit, only the transformer and supporting concrete pad were present in the area of the well. During a subsequent site visit in early January 2015, Jacobs-CORE noted additional work on-going in the area of the well, which included trenching new utility lines, excavation of contaminated soil, and installation of an air sparge groundwater remediation trailer. To account for these new activities, further coordination efforts were completed between Jacobs-CORE, the NASA RPM and the RPM for the remediation project, and stakeholders performing work in that area. Additional on-site visits were completed in late January 2015 with Jacobs-CORE personnel, air sparge trailer stakeholders, and a representative from the drilling company subcontracted to perform the abandonment. These visits were used to discuss and finalize access limitations, field work logistics, and water control/management options to protect surrounding infrastructure from potential accumulation of water during the abandonment process.

The recommended water control plan consisted of the use of hay bales to direct water away from the transformer and air sparge trailer, and towards the drainage ditch south of the well. Stakes would secure the hay bales. Sediment control measures were not deemed necessary for within the drainage ditch (in the event that water reached the ditch), as it was confirmed that a filter sock was already installed within the drainage ditch for other work that was being completed in that area. The recommended water control plan received concurrence from the NASA RPM. The plan was finalized in a document that was disseminated on February 2, 2015 to the NASA RPM, air sparge trailer stakeholders, and Jacobs-CORE personnel that would be overseeing the field work.

### **2.1.4 Start Date Coordination**

Start dates for field work were coordinated with the NASA RPM, the SpaceX facility manager, and air sparge trailer stakeholders. The dates were also populated on the NASA RIS calendar.

## **2.2 Abandonment Activities**

Abandonment of the LOX artesian well at Launch Complex 39A was completed between February 3-5, 2015. The abandonment was completed by EDS with field oversight and quality control (QC) performed by Jacobs-CORE. The well was abandoned-in-place with grout via tremie-method, and all aboveground completions were removed to below grade with exception of a portion of the discharge pipe. This pipe was left in place in the event that it might need to be reconnected to the LOX operations for a future use. Final site cleanup and restoration activities were completed by Jacobs-CORE on February 6 and 11, 2015.

The following sub-sections detail the stages of abandonment activities.

### **2.2.1 Field Work**

Prior to each day of field work, daily “tailgate meetings” were held to discuss the day’s activities, review health and safety concerns and protocol, and confirm communication procedures. The dig status and the day’s forecasted weather and weather warning protocols were also discussed during these meetings. All applicable project and site-specific documentation (permits, SSSHP, maps, etc.) was kept on-site throughout the duration of abandonment activities.

Initial field activities involved set-up of planned water control measures, and staging of materials and equipment for the abandonment process. Two of the bollards located aside the well were also removed to obtain clear access for the equipment necessary to complete the abandonment. After set-up and staging were complete, a portion of the aboveground piping was dismantled to gain access to remove the well’s pump and riser. Extra attention was given to the method of disassembly, given the proximity of surrounding infrastructure and hay bale placement. Once the piping was dismantled, the drill rig was used to hoist the pump out of the well, which was found to be positioned approximately 35-feet below top of casing. A multi-purpose manifold was subsequently connected onto the wellhead as a junction to pump grout into the well, to direct return water flow, and to close-off the artesian flow in order to allow grout to set properly.

Once the manifold was connected, an initial batch of grout was pumped into the well to halt artesian flow. The grout was mixed on-site and consisted of water, neat cement, and a percentage of bentonite additive. A senior, registered professional geologist from Jacobs-CORE was on-site to oversee the formulation and ensure appropriate densities were achieved. The grout mixture was then pumped into the well through a tremie pipe that was positioned near the bottom of the well. Approximately 400 gallons of grout was pumped into the well at that time; nearly half of the calculated volume for an 8-inch, 380-foot well. After this grout mixture was added, the tremie pipe was retracted and the valve on the manifold was closed off to allow the grout to set overnight.

Following the overnight set-up period, clear artesian water flow was still encountered when the valve was opened. The flow was significantly reduced from the pre-abandonment flows; however, the continued flow of water indicated that either the grout did not fully set, or that the open interval within the aquifer was not fully covered by the grout that did set. The tremie pipe was re-installed into the well to tag the grout, and discovered that the grout was set below 250-feet. The tremie pipe was re-set to an appropriate depth in the well in order to pump in additional grout. This second stage of grouting halted artesian flow. The shut-off valve was closed again, and the grout was allowed to set overnight.

No artesian flow was encountered after the second overnight set-up period, and the grout was tagged at 150-feet. The tremie pipe was re-set in the well and a final stage of grouting was performed to bring the seal to grade. Once this was complete, the manifold was detached and the remainder of the wellhead piping was removed to below grade. The supporting concrete pad was also removed during this process. The area was then re-graded to match existing conditions and the site area was appropriately cleaned up and restored. A total of 130 bags of neat cement were documented to have been used for the abandonment process, which aligns with amounts needed for a 380-foot well.



Final field work activities included removing all the hay bales from the site, installing a blind flange on the portion of the discharge pipe remaining aboveground, and mending a copper grounding wire that was inadvertently damaged during the abandonment process. The blind flange was placed over the discharge pipe to prevent access to the pipe until such time as it may be necessary. These activities were completed by Jacobs-CORE personnel on February 6 and 11, 2015. The decision to leave a portion of the discharge pipe aboveground was communicated to, and was concurred by the NASA RPM.

A photo log and field notes from well abandonment activities are provided in **Appendix A**. A copy of the water control plan (discussed in Section 2.1.3) is included in **Appendix B**. Copies of the dig and hot work permits are also provided in **Appendix B**.

### **2.2.2 Disposal**

Initial material disposal was completed on February 3, 2015 for the aboveground piping that was first dismantled to begin the abandonment. This material was initially taken to the Reutilization, Recycling and Marketing Facility located on Ransom Road; however, facility personnel directed the scrap material to be taken to a commercial facility. The material was subsequently transported to Dominion Metals in Cocoa Beach, Florida for recycling. The material recycled was registered as 1,000 pounds of tin. Copies of the disposal receipt is provided in **Appendix C**. All other material from the abandonment process was taken off-site by EDS following abandonment activities for proper disposal.

### **2.2.3 Well Completion Report**

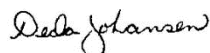
A well completion report was submitted back to SJRWMD on February 23, 2015 for the issued permit. The completion report was completed and relinquished by EDS. A copy of the well completion report, with associated permit, is provided in **Appendix D**.

## **3.0 SUMMARY**

In February 2015, the LOX artesian well at Launch Complex 39A was properly abandoned-in-place with grout via tremie-method. The artesian well was 8-inches in diameter and approximately 380-feet deep. All aboveground completions were removed to below grade, with exception of a portion of the discharge pipe. A blind flange was placed over the discharge pipe that remained aboveground. Water control measures implemented at the site were effective in protecting surrounding infrastructure. Following abandonment, the area was re-graded to match existing surroundings and the site was cleaned up and restored appropriately. All materials (concrete pad, well pump, aboveground well piping, etc.) were disposed of accordingly.

If you have any questions or need additional information, please feel free to contact us.

Sincerely,



Deda Johansen  
Program Manager



Lindsay Morgan, E.I.  
Project Manager

cc: John Armstrong, FDEP



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Abandonments\LC39A - Letter Report\  
Figure 1 - NASA-LC39A.mxd  
3/16/2015 by: LM

## Figure 1 - Site Location Launch Complex 39A

Well Abandonment Letter Report  
John F. Kennedy Space Center, Florida  
March 2015

**JACOBS**



**CORE**  
Engineering & Construction, Inc.



Figure 2 - Well Abandonment Location  
Launch Complex 39A

Legend

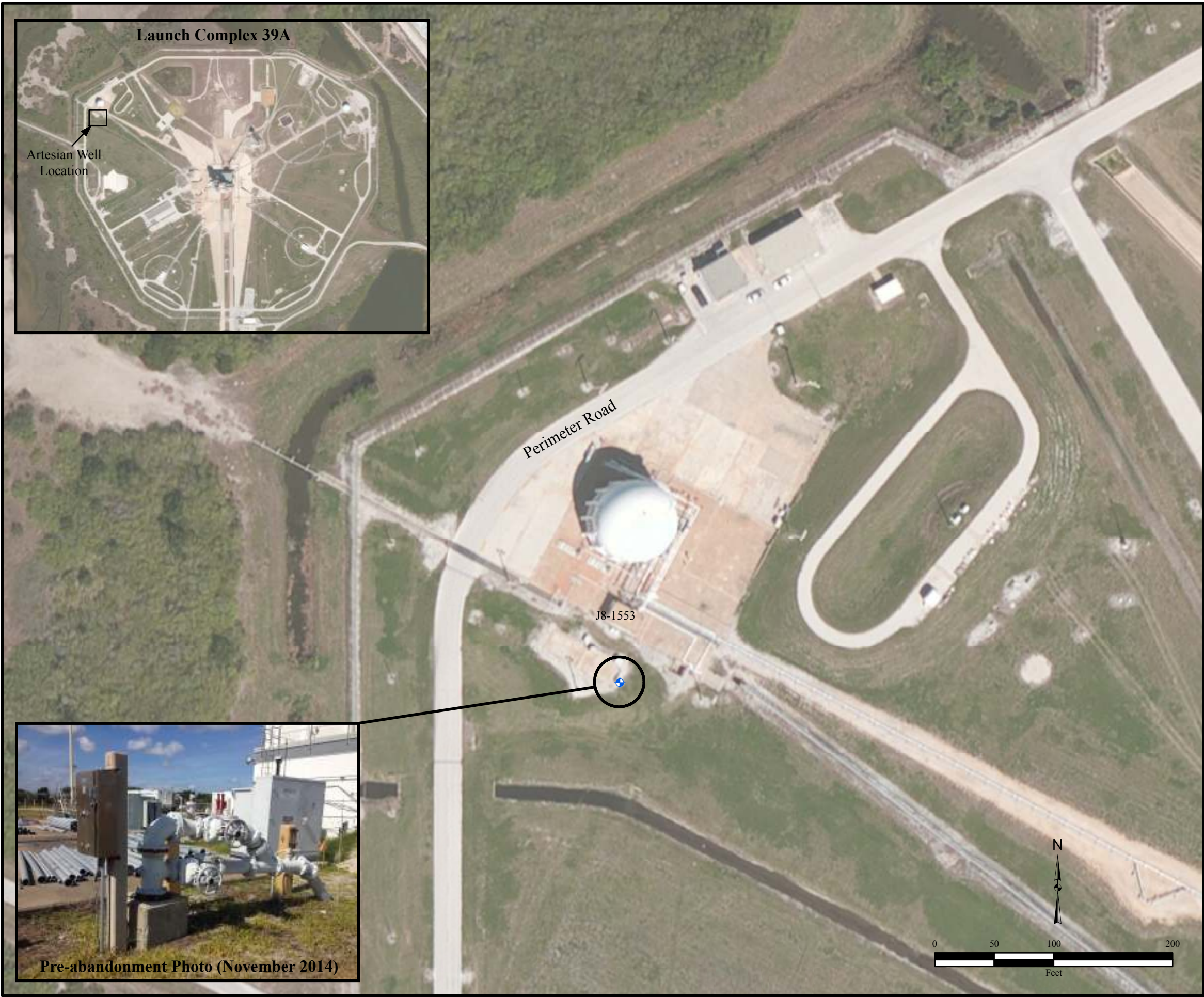
◆ Artesian Well Abandoned-in-Place

Artesian Well Information

Depth =	380-feet
Diameter =	8-inches
Coordinates	
Northing	Easting
1554753.374	781878.092

Note: Coordinates in State Plane Florida - East, feet

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Figure 2 - NASA-LC39A.mxd  
3/16/2015 by: LM



Pre-abandonment Photo (November 2014)



**Photo Log – Artesian Well Abandonment  
Launch Complex 39A  
February 2015**



November 2014: Pre-abandonment site conditions.



November 2014: Pre-abandonment site conditions.

**Photo Log – Artesian Well Abandonment  
Launch Complex 39A  
February 2015**



November 2014: Well tag identifying permit and use.



January 2015: The well's electrical junction box was removed prior to well abandonment. Note utility line trenching and soil removal activities also completed in this timeframe.



**Photo Log – Artesian Well Abandonment  
Launch Complex 39A  
February 2015**



January 2015: Soil removal activities were completed adjacent to the well prior to abandonment. These activities were not associated with the abandonment process.



January 2015: A groundwater remediation air sparge trailer was also installed adjacent to the well prior to abandonment.

**Photo Log – Artesian Well Abandonment  
Launch Complex 39A  
February 2015**



29 January 2015: Hay bales were placed around the well as a water control to protect surrounding infrastructure and direct water towards the drainage ditch south of the well.



03 February 2015: Prior to the abandonment, the hay bales were secured using stakes.



**Photo Log – Artesian Well Abandonment  
Launch Complex 39A  
February 2015**



03 February 2015: After a portion of the aboveground piping was removed, the drill rig was set up in preparation to remove the pump and riser.



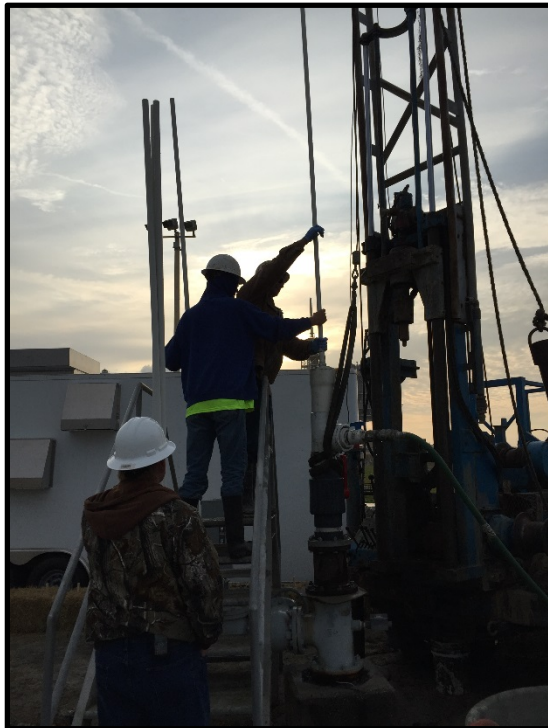
03 February 2015: The pump and riser are hoisted out the well. The pump was positioned approximately 35 feet below the well casing.



**Photo Log – Artesian Well Abandonment  
Launch Complex 39A  
February 2015**



03 February 2015: The hay bales were an effective water control measure.



04 February 2015: After the pump was removed, a manifold was connected onto the wellhead. Tremie pipe was installed to pump grout into the well.

**Photo Log – Artesian Well Abandonment  
Launch Complex 39A  
February 2015**



04 February 2015: Grout was mixed on-site.



04 February 2015: Grout was pumped into the well via tremie-method.



**Photo Log – Artesian Well Abandonment  
Launch Complex 39A  
February 2015**



05 February 2015: Once artesian flow was stopped, the manifold and remaining wellhead was removed and the grout seal was brought to grade.



05 February 2015: Once grouting was complete, the concrete pad was removed and the remaining wellhead piping was removed to below grade. The site was re-graded to match existing surroundings and the area was restored.

**Photo Log – Artesian Well Abandonment  
Launch Complex 39A  
February 2015**



06 February 2015: A blind flange was placed on the remaining discharge pipe left above grade.



11 February 2015: A copper grounding wire inadvertently damaged during the abandonment process was fixed by Cad-welding.



6" = 1.47 266  
 12" = 5.88  
 18" = 2.6 992

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2-3-15 39A well Abandonment

NASA

0700 Arrive KSC Bldg Gate 1 0730 meet time

task: LC-39A well Abandonment

weather: upper 40's/low 50's, wind NW 5-10, mostly cloudy skies

H/S: Held on site

topics: go over H/S plan, AHA's, Hot work permit, Dig permit Restrictions, Emergency Routes & #'s, & Site Housekeeping

personnel: Signed in on Daily site Access Log.

well Abandonment Volumes  $8" \times 380' = 2.6 \times 380 = 992 \text{ gallons}$

Abandonment Procedure - Pressure Grouting by Calculated Volume

0730 EDS personnel Arrive Gate 1

0750 Arrive on site Held until gate H/S meeting

0820 EDS crew Begin preparation for well Abandonment off load Rig & set up to pull ballards

0850 EDS crew off load skid steer & Remove Ballards from around well

Chris Newman on site w/TT

Carpet under trailer is tucked to wooden Frame making it difficult to Remove

Replace Per Chris Newman Carpet is But Dear carpet & will get wet when Rain occurs Do not need to Remove

Chris Newman (412) 862-7756

1130 Break for lunch Before Reassembly final valves & Installing Abandonment tee

1220 Return from lunch Begin Removing valves from well

1335 Pump Remove only hanging in well ~35' b/c

1445 spoke w/ Andy Speer & Paul supervisor about use of platform w/ stair as scaffolding for grouting

1615 Trim pipe I installed begin mixing Grout to seal off artesian flow.

mix 200 gallons of Portland Type III cement w/ ~5% Bentonite added

1700 400 gallons Grout & Bentonite pumped into well water on return showing signs of Grout beginning to cloud up 20X945

1730 All personnel off site for E.O.P

2-4-15

LC-39A

Jant 011

- 0700 Arrive on site LC-39A 0730 meet time  
 task: Artesian well Abandonment, site Restoration  
 weather upper 50's/low 60's, high (low 70's), mostly cloudy  
 wind NW 5MPH
- HHS Held on site personnell & topics on Daily  
 tailgate HHS Log.
- Personnell: signed in on Daily site Access Log  
 Rig: ARCO ATEU
- 0735 EDS crew arrive on site
- 0740 Held tailgate HHS meeting  
 Additional topics, Grout Dose, Concrete Poison  
 & Importance of site Restoration, & Reinstalling  
 Ballasts.
- 0800 Drop in trim pipe to 250' Did not tag  
 Bottom, well still Flowing clear water
- 0820 Begin mixing Portland cement for Abandonment  
 of well
- 0855 400 gallons pumped pull trim pipe to  
 200' as to not lock in hole if Grout is actually  
 filling in Hole clear Flow still coming out  
 of Return line
- 0900 trim pipe locked in Hole proving Grout is  
 above 250' b/s
- 0910 Retrieved all 250' trim pipe  
 Reinstall trim pipe to 180' & continue  
 Grouting
- 0935 Flow Return Flow stopped after additional  
 50 Gallons pumped, Pump Remaining mix  
 of 100 gallons & let sit sealed off until  
 Grout sets & then check for Flow prior to  
 continuation of Grouting
- 1030 EDS crew departs site to check out of hotel, will run to field  
 office to pick up Chaps and face shields.
- 1120 Arrive back onsite waiting for EDS crew to return
- 1145 EDS crew back onsite. Will send down trim pipe to check  
 Grout level.
- 1155 Grout is around 240' b/s. will bring pipe up to 180' b/s and  
 begin to grout again



- 2/4/15 LC-39A Jett 011
- 1200 Crew just informed me that Flow has returned.
- 1215 Begin to pump grout mix into well
- 1225 Place 200 Gals of grout with no return. Pull up 20' b/s  
will mix another batch 10 bags of grout.
- 1230 Mix 7 bags of grout with 150 Gals of water with 5% bentonite  
in mix.
- 1240 Dika V. on site. Crew departs for water.
- 1315 Crew returns with water. Mix up 200 Gal of water grout lobes  
plus 5% bentonite in mix. Depth is 150' b/s.
- 1330 Finish pumping but no return of grout or water. Crew will  
clean up work area. J. will head back to shop for  
more grout plus Jack hammer/generator to break up concrete  
around well.
- 1340 Dika departs site. Continue with area clean up.
- 1430 Tower down the drill platform.
- 1515 Crew has picked up and cleaned around site. See photos. They  
will go fill up on water. Will head over to see R Robinson  
at Wilson corner.
- 1630 Send photos and videos to L Morgan (core).

2/4/15

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2/5/15	LE-39A	Jer 7011
Personnel	Rick Allen (Core) Glen Pennington, Mitchell Pennington, Shawn Crisp (EDS)	
Task	Continue with well abandonment at LC 39A.	
Weather	Rained overnight Pudding in some areas H 69°F L 55°F Humidity 96% Wind SW 3 MPH, Pressure 29.88 In Rn 70% Am 15% pm	
0630	Arrive at LC-39A. Check over Site Since heavy rain last night 4 inches	
0725	EDS Crew arrives onsite.	
0730	Hold Health and Safety meeting, See Sign in for Topics.	
0735	Will start out using Trim pipe to try to tag grout in well.	
0750	Crew tags bottom at 120' b/s with no water return, Called Raymond Robinson to let him know and text L Morgan also. Crew will begin to mix up grout batch to send down.	
0815	Pumped in 200 Gals of water/grout mix 10 bags of Portland. Had return water come back cloudy.	
0840	Mix 150 Gals of Grout/water with 5 bags of Grout. Pump 75 Gals with grout water return. Crew moves stair platform out of way. They will disconnect the T connection.	
0940	Disconnect pre existing well valve section. Trim pipe is placed into open well and more grout/water mix is pumped in. Grout to surface.	
0950	Begin to use electric Jack hammer to break concrete around well.	
1030	As crew begins to cut well pipe below grade the chop saw clutch goes out. They will have to use cutting torch.	
1055	Begins to rain. Crew stops operations till it passes.	
1110	Continue with cutting well pipe.	
1120	Having Problems with cutting torch. Crew is cleaning up site.	
1155	Raymond Robinson arrives onsite to help show EDS crew how to use torch.	
1300	Dinh vo arrives onsite.	
1305	Dinh vo departs	
1350	Raymond departs site.	
1420	Crew is pick up site has been restored. Will send photos to	
1420pm	L Morgan.	
1430	End of day.	

OK 2/5/15



### JOB SAFETY PLANNING MEETING

Facility:	KSC	Specific Location:	LC-39A (LOX side)
Job Number:	JERT011	Date:	2-3-15
		Time:	0750

Tasks to be performed:

- Remove bollard to clear access to well (if necessary).
- Set up planned water controls, as needed.
- Disassemble aboveground piping and remove well pump and riser.
- Abandon well in place with grout. Cap effluent pipe.
- Restore site to existing conditions.

Chemicals Used:

Dig Status: (Dig Day or No Dig Day)

### SAFETY TOPICS PRESENTED

Protective Clothing/Equipment: Level D+ Safety glasses, gloves, hard-hats, steel-toe boots, and ear plugs.














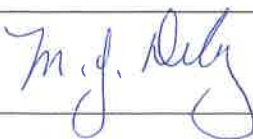
Chemical Hazards: LC-39A has land use controls for soil and groundwater contamination. See environmental comments on dig permit regarding environmental contamination concerns at this site.

Safety Plan to Avoid Chemicals/Hazards: Use Proper PPE. Wash hands before eating, drinking, smoking, and/or chewing.

#### Physical Hazards

#### Plan for Safe Actions

Insects and wildlife	Watch where you place your hands and feet. Use repellent. Check yourself for ticks. Aware of alligator around waterways.
Slip, trip, falls	Awareness of potential hazards such as stick ups, uneven surfaces, etc. Use good housekeeping methods. Keep hoses, tools, tubing; etc. in an orderly fashion.
Pinch points	Recognize and avoid potential pinch points. Watch hand and body positioning. Never place hands, arms, legs, or body between two items being joined, a movable and an immovable object, or inside running equipment. Use proper PPE. Objects that may shift.
Muscle strains	Use proper bending/lifting techniques. Let equipment do as much lifting as possible. Use Buddy system. Get assistance with heavy lifts.
Noise	Use hearing protection when you must raise your voice to be heard and in designated areas. Hearing protection required whenever drill rig is in operation. Always watch out for pedestrians. Stop work if local tenants are in the area.
Hand and power tools	Proper training on tool use. Proper PPE. Awareness. Proper maintenance of equipment. If generator is required, use of GFCI is required. Ensure that guards are in place and functional.
Cuts and Scrapes	Recognize and avoid. Awareness. Proper PPE.
Equipment Operations	Operators beware of pedestrians and surroundings. Make eye contact with operator prior entering work zones. Proper maintenance and inspections. Including those adjacent operations.
Vehicular traffic	Seatbelts use mandatory. Obey all speed limits and traffic control devices. Cell phone use prohibited while driving.
Heat stress	Take break as needed. Drink plenty of fluids. Cool down periods.
Underground utilities	Utilities locates have been obtained. Prior to installation of tooling, all sampling locations will be hand augured or post-holed to 5 ft. bgs.
Fueling Equipment	Use only fuel cans with spark arrestors. Shut-off equipment prior to fueling. No hot fueling equipment.
Pedestrians/Site Workers	During drilling operations ensure that other site workers are outside exclusion zones. Stop work if other personnel are near work area.
Changed Conditions	

Since Last Shift					
Emergency Procedures:		Call (321) 867-7911. Stabilize victim(s) and await medical assistance.			
Hospital/Clinic:		Occupational Health Facility at KSC			
Hospital Address:		Southwest corner of "C" Avenue and 2 <sup>nd</sup> Street			
Special Equipment:		Cutting torch, skid steer loader			
Other:	Rain/Lightning Chance:		% a.m.		% p.m.
Meeting conducted by Signature:					
Signature Site Manager:					
Location:		LC-39A		Date:	2-3-15
Name	Organization	Signature	Sign In	Sign Out	
Raymond Robinson	CORE		0700	1730	
Chen Remington	EDS		0800	1730	
Mitchell Remington	EDS		0800	1730	
Shawn Cripe	E.D.S.		0800	1730	
Dinh Vo	NASA		0815	1015	
	IHA		1330	1520	
Mark Petruzzello	CORE		0800	1300	
John Otkar	Jacobs		0800	1300	
DON STRICKLAND	CORE		1030	1730	
Rock Allen	CORE		1840	1615	
Mike Deliz	NASA		3:50	4:30	

## JOB SAFETY PLANNING MEETING

ity:	KSC	Specific Location:	Flight Crew Rescue Training Area
Job Number:	JERT011	Date:	02/04/15
Time:	0740		
Tasks to be performed:	-Abandon wells: grout-in-place. -Cut aboveground finishings below grade. -Remove concrete pads. -Restore surface to match existing surroundings.		
Chemicals Used:	Portland Cement		
Dig Status:	Dig Day		

### SAFETY TOPICS PRESENTED

Protective Clothing/Equipment:	Level D+ Safety glasses, gloves, hard-hats, steel-toe boots, and ear plugs.
Chemical Hazards:	Flight Crew Rescue Training Area site has been approved for No Further Action – no known contamination remains above regulatory cleanup criteria.
Safety Plan to Avoid Chemicals/Hazards:	Use Proper PPE. Wash hands before eating, drinking, smoking, and/or chewing.
Physical Hazards	Plan for Safe Actions
Insects and wildlife	Watch where you place your hands and feet. Use repellent. Check yourself for ticks. Aware of alligator around waterways.
Slip, trip, falls	Awareness of potential hazards such as stick ups, uneven surfaces, etc. Use good housekeeping methods. Keep hoses, tools, tubing; etc. in an orderly fashion.
Pinch points	Recognize and avoid potential pinch points. Watch hand and body positioning. Never place hands, arms, legs, or body between two items being joined, a movable and an immovable object, or inside running equipment. Use proper PPE. Objects that may shift.
Muscle strains	Use proper bending/lifting techniques. Let equipment do as much lifting as possible. Use Buddy system. Get assistance with heavy lifts.
Noise	Use hearing protection when you must raise your voice to be heard and in designated areas. Hearing protection required whenever drill rig is in operation. Always watch out for pedestrians. Stop work if local tenants are in the area.
Hand and power tools	Proper training on tool use. Proper PPE. Awareness. Proper maintenance of equipment. If generator is required, use of GFCI is required. Ensure that guards are in place and functional.
Cuts and Scrapes	Recognize and avoid. Awareness. Proper PPE.
Equipment Operations	Operators beware of pedestrians and surroundings. Make eye contact with operator prior entering work zones. Proper maintenance and inspections. Including those adjacent operations.
Vehicular traffic	Seatbelts use mandatory. Obey all speed limits and traffic control devices. Cell phone use prohibited while driving.
Heat stress	Take break as needed. Drink plenty of fluids. Cool down periods.
Underground utilities	Utilities locates have been obtained. Prior to installation of tooling, all sampling locations will be hand augured or post-holed to 5 ft. bgs.
Fueling Equipment	Use only fuel cans with spark arrestors. Shut-off equipment prior to fueling. No hot fueling equipment.
Pedestrians/Site Workers	During drilling operations ensure that other site workers are outside exclusion zones. Stop work if other personnel are near work area.
Changed Conditions Since Last Shift	

Emergency Procedures:		Call (321) 867-7911. Stabilize victim(s) and await medical assistance.				
Hospital/Clinic:		Occupational Health Facility at KSC				
Hospital Address:		Southwest corner of "C" Avenue and 2 <sup>nd</sup> Street				
Special Equipment:						
Other:	Rain/Lightning Chance:	0	% a.m.	20	% p.m.	wind NW 5MPH, mostly cloudy Low 60 / High 72° F
Meeting conducted by Signature:		Raymond Robinson				
Signature Site Manager:		Raymond Robinson				
Location:		LC-39A			Date:	
Name	Organization	Signature	Sign In	Sign Out		
Raymond Robinson	CORE	Raymond Robinson	0700	1030		
Rick Allen	CORE	Rick Allen	0700 1120	1030 1515		
Glenn Pennington	E.D.S.	Glenn Pennington	07:30 1145	1030 1515		
Michael Pennings	E.D.S.	Michael Pennings	07:30 1145	1030 1515		
Shawn Cripe	E.D.S.	Shawn Cripe	07:30 1145	1030 1515		
Ronald C. Enright	NASA SAFETY	Ronald C. Enright	0835	0915		
Tom Pice	IHA	Tom Pice	9:45	1030		
Dinh Vo	NASA	Dinh Vo	1200	1340		

### JOB SAFETY PLANNING MEETING

Facility:	KSC	Specific Location:	LC-39A (LOX side)
Job Number:	JERT011	Date:	2/5/15
Time:			
Tasks to be performed:	<ul style="list-style-type: none"> <li>-Remove bollard to clear access to well (if necessary).</li> <li>-Set up planned water controls, as needed.</li> <li>-Disassemble aboveground piping and remove well pump and riser.</li> <li>-Abandon well in place with grout. Cap effluent pipe.</li> <li>-Restore site to existing conditions.</li> </ul>		
Chemicals Used:			
Dig Status:	(Dig Day or No Dig Day)		
<b>SAFETY TOPICS PRESENTED</b>			
Protective Clothing/Equipment:	Level D+ Safety glasses, gloves, hard-hats, steel-toe boots, and ear plugs.		
Chemical Hazards:	LC-39A has land use controls for soil and groundwater contamination. See environmental comments on dig permit regarding environmental contamination concerns at this site.		
Safety Plan to Avoid Chemicals/Hazards:	Use Proper PPE. Wash hands before eating, drinking, smoking, and/or chewing.		
<b>Physical Hazards      Plan for Safe Actions</b>			
Insects and wildlife	Watch where you place your hands and feet. Use repellent. Check yourself for ticks. Aware of alligator around waterways.		
Slip, trip, falls	Awareness of potential hazards such as stick ups, uneven surfaces, etc. Use good housekeeping methods. Keep hoses, tools, tubing; etc. in an orderly fashion.		
Pinch points	Recognize and avoid potential pinch points. Watch hand and body positioning. Never place hands, arms, legs, or body between two items being joined, a movable and an immovable object, or inside running equipment. Use proper PPE. Objects that may shift.		
Muscle strains	Use proper bending/lifting techniques. Let equipment do as much lifting as possible. Use Buddy system. Get assistance with heavy lifts.		
Noise	Use hearing protection when you must raise your voice to be heard and in designated areas. Hearing protection required whenever drill rig is in operation. Always watch out for pedestrians. Stop work if local tenants are in the area.		
Hand and power tools	Proper training on tool use. Proper PPE. Awareness. Proper maintenance of equipment. If generator is required, use of GFCI is required. Ensure that guards are in place and functional.		
Cuts and Scrapes	Recognize and avoid. Awareness. Proper PPE.		
Equipment Operations	Operators beware of pedestrians and surroundings. Make eye contact with operator prior entering work zones. Proper maintenance and inspections. Including those adjacent operations.		
Vehicular traffic	Seatbelts use mandatory. Obey all speed limits and traffic control devices. Cell phone use prohibited while driving.		
Heat stress	Take break as needed. Drink plenty of fluids. Cool down periods.		
Underground utilities	Utilities locates have been obtained. Prior to installation of tooling, all sampling locations will be hand augured or post-holed to 5 ft. bgs.		
Fueling Equipment	Use only fuel cans with spark arrestors. Shut-off equipment prior to fueling. No hot fueling equipment.		
Pedestrians/Site Workers	During drilling operations ensure that other site workers are outside exclusion zones. Stop work if other personnel are near work area.		
Changed Conditions			

[illegible]

## **Planned Water Controls – LC-39A Artesian Well Abandonment**

**Field Work Start:** 03 February 2015 (Tuesday)

**Estimated Duration:** 3-4 days

**Well Location:** LC-39A (LOX side)

### **Anticipated Field Events:**

1. If necessary, remove bollard south of well to obtain clear access.
2. Set up planned water controls (see below for details).
3. Disassemble aboveground well piping and remove well pump and riser.
4. Install flange, reducer, and valve to well head and pump grout into well.
5. After allowing time for grout to set, open valve and check for flow. If no flow, remove well head and top off to surface with grout. Cap effluent pipe. If flowing, continue grouting until no flow conditions exist.
6. Restore site to existing conditions.

### **Logistics/Coordination:**

- The artesian well is located in an area where other environmental remediation work is being completed and where an active transformer is situated. An air sparge trailer has just been installed adjacent to the well.
- The amount of water that will be discharged will be dependent on pressure within the well/water level heads. Water will be discharged when the aboveground assembly is dismantled and during pump/riser removal. Based on discussions with the driller, it is estimated that the well may flow for up to 2 hours. This is a very conservative estimate, as the driller indicated as it may only be ½-hour. The grouting process will halt artesian flow.
- Jacobs/CORE personnel met with Tetra Tech personnel on 22 January 2015 (Thursday) to discuss site remediation activities in the area and air sparge trailer installation/start-up. Tetra Tech is aware of the start date and anticipated flow of water.
- An on-site meeting was held on 28 January 2015 (Wednesday) to discuss field logistics and water control options. Survey measurements were also collected to identify natural drainage pathways in this area. Although the area is relatively flat in the area of the well, the collected measurements indicate that water would flow towards the drainage ditch south of the well if enough accumulates. However, it is understood that there is infrastructure in the area of the well in which we do not want water to accumulate near. A water control plan, by use of hay bales, was therefore proposed and agreed upon with the NASA RPM (see plan below).

### **Planned Water Controls:**

1. Hay bales will be used for water control. The hay bales will be placed around/in the area of the artesian well to direct water away from the transformer and air sparge trailer and toward the drainage ditch south of the well. Stakes will be used to secure the hay bales.
2. A filter sock is already located in the drainage ditch for other work being completed in this area. It has been confirmed that this filter sock will still be in place during the time when abandonment activities are being completed. No additional controls are needed within the drainage ditch.



3. Best management practices will be employed to ensure that existing infrastructure is not compromised and the area is restored to existing conditions.
4. Site contacts will be notified if any problems are encountered during abandonment activities.  
Contacts included:

- NASA RPM: Dinh Vo, [REDACTED]
- Tetra Tech: Chris Hook, [REDACTED] Chris Pike, [REDACTED]  
[REDACTED] or Chris Neumann
- SpaceX Facility Manager: Todd Ziegler [REDACTED]



Hay Bales set up to control/divert water



ing Permit Request:

PADA

## Permit Request: 17195 (Status: Approved)

You must schedule an Excavation Permit Inspector (EPI) to meet with you on site for the utility locate and to obtain the required signature on this permit.

**IMPORTANT: Please call at least 72 hours prior to digging. The Excavator shall maintain an approved copy of this permit, signed by the EPI, on site at all times.**

### Excavation Permit Inspectors (EPI):

Jeff McDowell Phone: (321) 861-6869 Cell: (321) 749-4840

Ryan Ostarly Phone: (321) 861-6946 Cell: (321) 289-2372 FAX: (321) 861-6558

### IMPORTANT INFORMATION:

- Excavation Permit Requests will be **immediately cancelled** should digging begin prior to approval from the EPI.
- Orange color paint is assigned to EPIs only unless maintaining the original paint markings.
- Utility Locate/Excavation Permit Requests will be **immediately cancelled** if original EPI paint markings are not maintained.
- You must **hand dig within 24 inches** in either direction of all EPI paint markings.
- **Do not remove or disturb thrust blocks.** A thrust block is a configured piece of concrete located underground at water and sewer utility piping to prevent movement from line pressure fluctuations. When excavating soil at location known to contain buried water or sewer lines, **do not remove any buried concrete without prior approval.**
- Maximum duration of time an EPR can remain in the approval status is one year. All work expecting to extend longer than one year must be re-submitted as a new request, including an updated map and scope of work.
- If the scope of work for the original Utility Locate/Excavation Permit Request is changed or the completion date needs to be extended, you are required to call 867-2406.
- When the job is complete, you are required to call 867-2406. **This permit will be closed upon expiration unless an extension is requested.**
- Accidental Utility line damage, excluding Gas main damage, shall call the ISC Duty Office at 861-5050.
- Accidental Gas Main damage shall call 911, evacuate the area and then call the ISC Duty Office.
- Category Code V Permits must call the ISC Duty office daily and observe all Critical-Days as directed by the ISC Duty Office.

### EPR Administrator:

If you have any questions regarding your Utility Locate/Excavation Permit Request, please contact the EPR administrator at the following:

Phone: (321) 867-2406

Fax: (321) 867-1175

Email: [KSC-ISC-DIGPERMIT@mail.nasa.gov](mailto:KSC-ISC-DIGPERMIT@mail.nasa.gov)

**Permit Request: 17195 (Status: Approved)**

Submitter's Information	
Submitter First Name	Lindsay
Submitter Last Name	Morgan
Submitter Email Address	<a href="mailto:lmorgan@core-encon.com">lmorgan@core-encon.com</a>
Submitter Company Name	Core Engineering & Construction
Submitter Phone	407.622.2673
Submitter Fax	407.622.2674
Technical Contact Information	
Technical Contact First Name	Harlan
Technical Contact Last Name	Faircloth
Technical Contact Email Address	<a href="mailto:hfaircloth@core-encon.com">hfaircloth@core-encon.com</a>
Technical Contact Phone	407.622.2673
Technical Contact Fax	407.622.2674
NASA COTR Contact Information	
NASA COTR First Name	Dinh
NASA COTR Last Name	Vo
NASA COTR Email Address	<a href="mailto:dinh.x.vo@nasa.gov">dinh.x.vo@nasa.gov</a>
NASA COTR Phone	321.867.5964
Permit Request Info	
PermitType	Dig
PermitStatus	Approved
Permit Start Date	11/17/2014
Permit End Date	11/17/2015
Estimated Completion Date	11/17/2015
Scope of Work/Justification	Per contract with NASA KSC Remediation Program, the identified artesian well is to be abandoned in place with above ground surface completions cut to grade and well pad removed.
Facility Info	



Facility	J8-1553
Grid	J8
<b>Additional Forms and Identifying Numbers</b>	
Secondary Location	Work will be completed south of identified facility in earthen area.
Environmental Check List Completed	No
<b>Category Codes</b>	
1	III
<b>Related Documents</b>	
<b>File Name</b>	<b>Description</b>
No files uploaded	

<b>Reviews</b>			
Reviewed By:	Date:	Results:	Comments:
Locator	11/12/2014 11:33:07 AM	Agree	RO
Environmental	11/12/2014 12:02:35 PM	Agree	This project takes place in SWMU # 8 "Launch Complex 39A" with constraints against soil and groundwater usage, which may also affect the disposal options for the well pad. Abandoning and subsequent removal of this well MUST be coordinated with SpaceX prior to any earth or equipment disturbing activities within the confines of the LC39A pad perimeter fence. Contact Dihn Vo (NASA TA-A4B, 321-867-5964) to facilitate coordination. Prior to ANY soil disturbing activities in the area including removal of the well pad, contact NASA Project Remediation Manager Mike Deliz (TA-A4B, 321-867-6971) for specific guidance regarding handling of soil and/or groundwater from this location which will/may affect PPE and pad/material disposal options. All workers involved in subsurface work must be notified (HAZCOM) of the potential for contamination to be present and it is recommended that an Industrial Hygienist be consulted for determination of required personal protective equipment (PPE). For MESC contracts, contact MESC Industrial Hygiene (IH) for recommendations on personal protective equipment (PPE). MESC IH can be contacted at 321-867-2400 or at KSC-DL-EnvHealth/ (KSC-DL-EnvHealth@mail.nasa.gov). If an animal burrow is observed under the well casing pad or within 25 feet of the well, please contact Becky Bolt (IHA-200, 321-867-7330) at least 14 days in advance of this planned abandonment/pad removal so that the burrow may be evaluated and tortoises relocated (if necessary). All disturbed soil must stay on site.
Master Planner	11/12/2014 7:49:24 AM	Agree	HF
Final	11/12/2014 12:45:32 PM	Agree	HF

Map	
Map associated with this request	None

Permit Request: 17195 (Status: Approved)

Approved by: Jeff McDowell

Approved by: Ryan Ostarly

12-8-14

Approved by:

Approved by:

Notes:

☒ LOCATED AREA TO BE HAND EXCAVATED ONLY!

Locator's Signature:

Reason for Hand Excavation:

Congested AREA / UTILITY

CONFLICTS

Permit Request: 17195 (Status: Approved)

EXCAVATION PERMIT CATEGORIES:

If you have questions about assigned category codes contact the Excavation Permit Inspectors at 321-289-7829 or 321-749-4840. Remember - for permits with more than one category code, the most restrictive category code applies.

LAUNCH

For the latest launch, landing or test schedule, contact the ISC Duty Office at 321-861-5050.

Category I \*

Seventy-two (72) prior to launch, test or landing, excavation will stop at, around or involving the following KSC facilities:

Launch Control Center - LCC (K6-0900)	Old MILA Area	Communication Distribution and Switching Center - CD&SC (M6-0138)	Operations & Checkout O&C (M6-0355)
LC 39 A & B (all areas and buildings inside the fence) & all 8 Repeater Stations. <sup>1</sup>	Press Site (all buildings, roads, parking areas in and around the area.)	Payload Facility Supporting Launch (M7-0777, & M7-0360) <sup>2</sup>	Central Instrumentation Facility (M6-0342)
VAB Repeater - VABR (K7-1193)	Banana River Repeater Station (M7-0531)	CCF - Converter Compressor Facility (K7-0468)	Shuttle Landing Facility -SLF (runway and all associated buildings and infrastructure)
C-5 Substation (K6-1141)	Tel IV & South Repeater Station (N6-1118)	VAB (K6-0848) and VAB Utility Annex (K6-0947)	

1 - Facilities (J7-0986, J7-1736, J8-2204, K6-1193, K7-0089, K7-0422, K7-0709, M7-0531, & N6-1118).

2 - Mission Specific - Including but not limited to these facilities. (M7-0777 - Transporter/Canister Facility, and M7-0360 - Space Station Processing Facility (SSPF)).

Excavation may resume at facilities 1-15 four hours after launch. Excavation will not occur at the SLF (16) until after landing.

Category II

LC-39 Active Pads - All excavation (except emergencies) will stop when the launch vehicle rolls out to the Pad. Excavation may resume following Pad safing and washdown after launch.

Category III

LC-39 Deactive Pads - Excavation will cease 2 hours before sunset on Launch -1 day, or 12 hours prior to Launch from Active Pad, whichever is earlier. Excavation may resume 4 hours after launch from the active pad.

Category IV

Excavation may proceed in all areas and times not covered by Categories I, II or III.

Category V

You must call the ISC Duty Office at 321-861-5050 **DAILY** prior to digging

Air Force Launch Operations - Excavation and switching of critical power will cease on launch critical days (L-1, launch count to include launch day, and program specific test days) at the following KSC facilities and utilities:

Kennedy Parkway, NASA Parkway & Saturn Causeway utility corridors	Tel IV & South Repeater Station (N6-1118)	Banana River Repeater Station (M7-0531)	Utility Corridors East of Orsino Substation serving CCAFS	Area south from LC-39B along Phillips Parkway.
All Camera, Radar & Weather Sites	Shuttle Landing Facility	KARS Park	Pump Station 7 (K8-1740)	Old MILA Area



Press Site (all buildings, roads, parking areas in and around the area)	Complex 41 (all facilities and areas inside the fence)	Area east from the Converter Compressor Facility -CCF (K7-0468) to Pad 39A
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**LANDING**

*For the latest launch, test or landing schedule, contact the ISC Duty Office at 321-861-5050.*

**Category VI**

Except for the SLF, excavation may proceed in all areas up to 2 hours prior to sunset on landing -1 day, or 12 hours prior to landing, whichever is earlier. Excavation may proceed at all facilities, except for the SLF, 1 hour after a successful landing. Excavation will stop at, around and/or involving the SLF and involved facilities, at the start of Launch Countdown. Excavation may proceed in this area after Landing, AND with approval from the SLF Operations at 867-2100.





# HOT WORK PERMIT

Permit Shall Not Exceed 30 Days



Company Name <b>Cove Engineering</b>	Permit Number <b>127775</b>	Date/Time Permit Issued <b>12/8/14</b>	Date Permit Expires <b>1/8/15</b>
Facility Number/Area <b>JB-1708 ADA "North West Corner" @ artisan well</b>			
Supervisor/Operator's Name (See Note #1) <b>Rick Allen</b>	Phone Number <b>321 704 3880</b>	<input checked="" type="checkbox"/> Welding <input checked="" type="checkbox"/> Grinding <input checked="" type="checkbox"/> Torch <input type="checkbox"/> CAD <input type="checkbox"/> Other	
Supervisor/Operator's Signature 		Permit Authorizing Individual <b>Hillary L Andrews</b>	Name and Phone Number <b>794-389954</b>

## On-site inspection required by Permit Authorizing Individual before issuing permit.

- |   | YES                                 | N/A                                 |
|---|-------------------------------------|-------------------------------------|
| 1. Operator affirms they are properly trained to operate hot work equipment.  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2. Operator affirms hot work equipment has been inspected and is in safe operating condition.   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 3. Operator shall maintain good housekeeping practices throughout operation.  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 4. Fire Extinguishers shall comply with NFPA 10. Extinguishers shall be inspected daily prior to hot work, located within 20 feet of hot work site, and their use is understood.<br>Type: <input checked="" type="checkbox"/> 10 lbs. ABC <input type="checkbox"/> 2 1/2 gal. water <input type="checkbox"/> 15 lbs. CO <sup>2</sup> , <input type="checkbox"/> other | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 5. Flammable liquids and gases shall be relocated a minimum distance <u>50 feet</u> from hot work. *<br>If impractical to relocate, ensure they are safely protected or do not perform hot work.  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 6. Combustible materials shall be relocated a minimum distance of <u>35 feet</u> from hot work. *<br>If impractical to relocate, ensure they are safely protected or do not perform hot work.   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 7. Operator shall ensure all hazardous dust, lint, and oily deposits are removed.   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 8. Operator shall visually inspect and ensure that all enclosures, chases, ducts, walls, floor openings and adjacent areas have been safely protected.  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 9. Operator shall ensure all equipment, containers, pipes, hoses have liquids drained, pressure released, vapors purged, gas valves shut off, etc.  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 10. Operator shall provide the appropriate safety barriers and warning signs as required.   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 11. Operator shall ensure detection systems (including HVAC) are safed, covered, or protected before hot work begins; and systems shall be restored to service daily.   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 12. Fire suppression systems shall remain operational (unless otherwise permitted).   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 13. No hot work in explosive or oxygen enriched atmospheres. Perform air sampling as required.  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 14. All fire watch personnel shall read and understand the requirements of this permit. Fire watch personnel shall be present throughout the hot work operation and <u>30 minutes after completion</u> . *<br>If evacuation is required, report hot work operations to Fire Incident Commander.   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 15. All Hot Work shall stop 24 hrs before scheduled launch and not resume until 8 hrs after launch.   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 16. <b>For New Construction or Demolition:</b> A pre-task briefing shall be conducted at the beginning of any hot work task. Hot work operators and fire watches shall be present and the contents of this permit and potential hazards shall be addressed.   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

**In the event of FIRE OR EMERGENCY call 911 or cell phone - 321-867-7911.**

For permit renewal call the Duty Office at 861-5050.

### Additional Comments

**Please cover grass in work area or have water supply on-hand while completing work.**

**(Note #1): If Operator cannot complete work, all new operators shall read and initial next to appropriate boxes and sign this checklist below, indicating full understanding of safety procedures and requirements.**

Alternate Operator Signature	Date	Alternate Operator Signature	Date
------------------------------	------	------------------------------	------

**Code References:** NFPA 51B Standard for Fire Prevention During Welding, Cutting and Other Hot Work, NFPA 241 Standard for Safeguarding Construction, Alteration, and Demolition Operations, NFPA 101 Life Safety Code, NFPA 1 Uniform Fire Code, OSHA 1910.252, OSHA 1926.352. NASA-STD-8719.11 Safety Standard for Fire Protection.





# HOT WORK PERMIT

Permit Shall Not Exceed 30 Days



Company Name <b>CORE ENGR.</b>	Permit Number <b>128279</b>	Date/Time Permit Issued <b>1-8-15</b>	Date Permit Expires <b>2-8-15</b>
Facility Number/Area <b>PAD 39 A @ ARTESION WELL</b>			
Supervisor/Operator's Name (See Note #1) <b>P. Raymond Robinson</b>	Phone Number <b>407-467-7857</b>	<input type="checkbox"/> Welding <input type="checkbox"/> Grinding <input type="checkbox"/> Torch <input type="checkbox"/> CAD <input type="checkbox"/> Other	
Supervisor/Operator's Signature <i>[Signature]</i>		Permit Authorizing Individual <b>NATE</b>	Name and Phone Number <b>321-289-8324</b>

On-site inspection required by Permit Authorizing Individual before issuing permit.

- Operator affirms they are properly trained to operate hot work equipment.
- Operator affirms hot work equipment has been inspected and is in safe operating condition.
- Operator shall maintain good housekeeping practices throughout operation.
- Fire Extinguishers shall comply with NFPA 10. Extinguishers shall be inspected daily prior to hot work, located within 20 feet of hot work site, and their use is understood.  
Type ☒ 10 lbs. ABC ☐ 2 1/2 gal. water ☐ 15 lbs. CO<sup>2</sup>, ☐ other **10# ABC**
- Flammable liquids and gases shall be relocated a minimum distance 50 feet from hot work.  
If impractical to relocate, ensure they are safely protected or do not perform hot work.
- Combustible materials shall be relocated a minimum distance of 35 feet from hot work.  
If impractical to relocate, ensure they are safely protected or do not perform hot work.
- Operator shall ensure all hazardous dust, lint, and oily deposits are removed.
- Operator shall visually inspect and ensure that all enclosures, chases, ducts, walls, floor openings and adjacent areas have been safely protected.
- Operator shall ensure all equipment, containers, pipes, hoses have liquids drained, pressure released, vapors purged, gas valves shut off, etc.
- Operator shall provide the appropriate safety barriers and warning signs as required.
- Operator shall ensure detection systems (including HVAC) are safed, covered, or protected before hot work begins; and systems shall be restored to service daily.
- Fire suppression systems shall remain operational (unless otherwise permitted).
- No hot work in explosive or oxygen enriched atmospheres. Perform air sampling as required.
- All fire watch personnel shall read and understand the requirements of this permit. Fire watch personnel shall be present throughout the hot work operation and 30 minutes after completion.  
If evacuation is required, report hot work operations to Fire Incident Commander.
- All Hot Work shall stop 24 hrs before scheduled launch and not resume until 8 hrs after launch.
- For New Construction or Demolition:** A pre-task briefing shall be conducted at the beginning of any hot work task. Hot work operators and fire watches shall be present and the contents of this permit and potential hazards shall be addressed.

YES	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>

**In the event of FIRE OR EMERGENCY call 911 or cell phone - 321-867-7911.**

For permit renewal call the Duty Office at 861-5050.

Additional Comments

*Calgary well*

(Note #1): If Operator cannot complete work, all new operators shall read and initial next to appropriate boxes and sign this checklist below, indicating full understanding of safety procedures and requirements.

Alternate Operator Signature	Date	Alternate Operator Signature	Date
------------------------------	------	------------------------------	------

**Code References:** NFPA 51B Standard for Fire Prevention During Welding, Cutting and Other Hot Work, NFPA 241 Standard for Safeguarding Construction, Alteration, and Demolition Operations, NFPA 101 Life Safety Code, NFPA 1 Uniform Fire Code, OSHA 1910.252, OSHA 1926.352. NASA-STD-8719.11 Safety Standard for Fire Protection.





# HOT WORK PERMIT

Permit Shall Not Exceed 30 Days



Company Name <b>Core Eng</b>	Permit Number <b>128915</b>	Date/Time Permit Issued <b>2-9-15</b>	Date Permit Expires <b>3-9-15</b>
Facility Number/Area <b>JX-1708 PADA LOX AREA</b>			
Supervisor/Operator's Name (See Note #1) <b>S Rick Allen</b>	Phone Number <b>321 704 3880</b>	<input type="checkbox"/> Welding <input type="checkbox"/> Grinding <input type="checkbox"/> Torch <input checked="" type="checkbox"/> CAD <input checked="" type="checkbox"/> Other <b>Cutting</b>	
Supervisor/Operator's Signature <i>[Signature]</i>		Permit Authorizing Individual <b>NAME</b>	Name and Phone Number <b>321-289 8324</b>

**On-site inspection required by Permit Authorizing Individual before issuing permit.**

	YES	N/A
1. Operator affirms they are properly trained to operate hot work equipment.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Operator affirms hot work equipment has been inspected and is in safe operating condition.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Operator shall maintain good housekeeping practices throughout operation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Fire Extinguishers shall comply with NFPA 10. Extinguishers shall be inspected daily prior to hot work, located within 20 feet of hot work site, and their use is understood. Type: <input type="checkbox"/> 10 lbs. ABC <input type="checkbox"/> 2 1/2 gal. water <input type="checkbox"/> 15 lbs. CO <sub>2</sub> <input checked="" type="checkbox"/> other <b>20# ABC</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Flammable liquids and gases shall be relocated a minimum distance 50 feet from hot work. If impractical to relocate, ensure they are safely protected or do not perform hot work.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Combustible materials shall be relocated a minimum distance of 35 feet from hot work. If impractical to relocate, ensure they are safely protected or do not perform hot work.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Operator shall ensure all hazardous dust, lint, and oily deposits are removed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Operator shall visually inspect and ensure that all enclosures, chases, ducts, walls, floor openings and adjacent areas have been safely protected.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Operator shall ensure all equipment, containers, pipes, hoses have liquids drained, pressure released, vapors purged, gas valves shut off, etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Operator shall provide the appropriate safety barriers and warning signs as required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. Operator shall ensure detection systems (including HVAC) are safed, covered, or protected before hot work begins; and systems shall be restored to service daily.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12. Fire suppression systems shall remain operational (unless otherwise permitted).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13. No hot work in explosive or oxygen enriched atmospheres. Perform air sampling as required.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14. All fire watch personnel shall read and understand the requirements of this permit. Fire watch personnel shall be present throughout the hot work operation and 30 minutes after completion. If evacuation is required, report hot work operations to Fire Incident Commander.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
15. All Hot Work shall stop 24 hrs before scheduled launch and not resume until 8 hrs after launch.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16. <b>For New Construction or Demolition:</b> A pre-task briefing shall be conducted at the beginning of any hot work task. Hot work operators and fire watches shall be present and the contents of this permit and potential hazards shall be addressed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

In the event of **FIRE OR EMERGENCY** call **911** or cell phone - **321-867-7911**.

For permit renewal call the Duty Office at 861-5050.

Additional Comments

**RE CAD welding ground.**

**(Note #1): If Operator cannot complete work, all new operators shall read and initial next to appropriate boxes and sign this checklist below, indicating full understanding of safety procedures and requirements.**

Alternate Operator Signature	Date	Alternate Operator Signature	Date
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**Code References:** NFPA 51B Standard for Fire Prevention During Welding, Cutting and Other Hot Work, NFPA 241 Standard for Safeguarding Construction, Alteration, and Demolition Operations, NFPA 101 Life Safety Code, NFPA 1 Uniform Fire Code, OSHA 1910.252, OSHA 1926.352. NASA-STD-8719.11 Safety Standard for Fire Protection.



## PAYMENT RECEIPT

Dominion Metals Cocoa  
445 Canaveral Groves Blvd  
Cocoa Beach, FL 32926  
321-735-4940

Receipt: 0219693 Date: 02/03/2015  
Customer: 12672 Time: 14:35

CORE EGINERING  
MARK PETRUZZELLO  
210 COVE LOOP DRIVE  
MERRITT ISLAND, FL 32953

Driver's License: P362-550-73-211-0 FL

Ticket: 258697 Weigh In: 02/03/2015 14:22  
Operator: 2 Weigh Out: 02/03/2015 14:31

Description: Truck 1 person

All weights in pounds. M indicates manual weight

Commodity	Gross	Tare	Net	Price	TOTAL \$
Tin	6320	5320	1000	5.000/CW	\$50.00
Ticket Total					\$50.00

# of Tickets: 1

Paid by CHECK 7386

Total Paid	\$50.00
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Note: Florida Statute 338.23(3) states: "Any person who knowingly gives false verification of ownership or who gives a false or altered identification and who receives money or other consideration from a secondary metals recycler in return for regulated metals property commits (a) a felony of the third degree, punishable as provided in s. 775.082, s. 775.083, or s. 775.084, if the value of the money or other consideration received is less than \$300; (b) a felony of the second degree, punishable as provided in s. 775.082, s. 775.083, or s. 775.084, if the value of the money or other consideration received is \$300 or more. It is the rightful owner of, or entitled to sell the regulated metals property being sold."





# STATE OF FLORIDA WELL COMPLETION REPORT

Southwest

Northwest

✓ St. Johns River

South Florida

Suwannee River

DEP

Delegated Authority (If Applicable)

PLEASE, FILL OUT ALL APPLICABLE FIELDS

(\*Denotes Required Fields Where Applicable)

Date Stamp

Official Use Only

1.\*Permit Number 140159-1 \*CUP/WUP Number 2-009-50054-2 \*DID Number 35273 62-524 Delineation No. \_\_\_\_\_

2.\*Number of permitted wells constructed, repaired, or abandoned 1 \*Number of permitted wells not constructed, repaired, or abandoned 0

3.\*Owner's Name NASA 4.\*Completion Date 2/5/15 5. Florida Unique ID \_\_\_\_\_

6. \_\_\_\_\_ LC39A, KENNEDY SPACE CENTER, FL

\*Well Location - Address, Road Name or Number, City, ZIP

7.\*County BREVARD \*Section 3 Land Grant \_\_\_\_\_ \*Township 22S \*Range 37E

8. Latitude 283637.512144 Longitude 803630.04776

9. Data Obtained From: ☐ GPS ☒ Map ☐ Survey Datum: NAD 27 ☒ X NAD 83 ☐ WGS 84

10.\*Type of Work: ☐ Construction ☐ Repair ☐ Modification ☒ Abandonment

11.\*Specify Intended Use(s) of Well(s)

☐ Domestic

☐ Bottled Water Supply

☐ Public Water Supply (Limited Use/DOH)

☐ Public Water Supply (Community or Non-Community/DEP)

☐ Class I Injection

☐ Landscape Irrigation

☐ Recreation Area Irrigation

☐ Agricultural Irrigation

☐ Livestock

☐ Nursery Irrigation

☐ Commercial/Industrial

☐ Golf Course Irrigation

☐ Site Investigations

☐ Monitoring

☐ Test

☐ Earth-Coupled Geothermal

☐ HVAC Supply

☐ HVAC Return

Class V Injection: ☐ Recharge ☐ Commercial/Industrial Disposal ☐ Aquifer Storage and Recovery ☐ Drainage

Remediation: ☐ Recovery ☐ Air Sparge ☐ Other (Describe) \_\_\_\_\_

☒ Other (Describe) COOLANT TO HYDROGEN BURN POND

12.\*Drill Method ☐ Auger ☐ Cable Tool ☐ Rotary ☐ Combination (Two or More Methods) ☐ Jetted ☐ Sonic

☐ Horizontal Drilling ☐ Hydraulic Point (Direct Push) ☒ Other PLUGGED BY APPROVED METHOD

13.\*Measured Static Water Level \_\_\_\_\_ ft. Measured Pumping Water Level \_\_\_\_\_ ft. After \_\_\_\_\_ Hours at \_\_\_\_\_ GPM

14.\*Measuring Point (Describe) \_\_\_\_\_ Which is \_\_\_\_\_ ft. Above \_\_\_\_\_ Below Land Surface \*Flowing: ☐ Yes ☐ No

15.\*Casing Material: ☒ Black Steel ☐ Galvanized ☐ PVC ☐ Stainless Steel ☐ Not Cased ☐ Other \_\_\_\_\_

16.\*Total Well Depth \_\_\_\_\_ ft. Cased Depth \_\_\_\_\_ ft. \*Open Hole: From \_\_\_\_\_ To \_\_\_\_\_ ft. \*Screen: From \_\_\_\_\_ To \_\_\_\_\_ ft. Slot Size \_\_\_\_\_

17.\*Abandonment: ☒ Other (Explain) NO LONGER IN USE

From <u>0</u> ft. To <u>380</u> ft.	No. of Bags <u>130</u>	Seal Material (Check One):	<input checked="" type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____
From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____
From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____
From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____
From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____

18.\*Surface Casing Diameter and Depth:

Dia _____ in. From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____
Dia _____ in. From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____

19.\*Primary Casing Diameter and Depth:

Dia _____ in. From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input checked="" type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____
Dia _____ in. From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____
Dia _____ in. From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____
Dia _____ in. From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____
Dia _____ in. From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____

20.\*Liner Casing Diameter and Depth:

Dia _____ in. From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____
Dia _____ in. From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____
Dia _____ in. From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____

21.\*Telescope Casing Diameter and Depth:

Dia _____ in. From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____
Dia _____ in. From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____
Dia _____ in. From _____ ft. To _____ ft.	No. of Bags _____	Seal Material (Check One):	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Bentonite	Other _____

22. Pump Type (If Known):

☐ Centrifugal ☐ Jet ☐ Submersible ☐ Turbine

Horsepower \_\_\_\_\_ Pump Capacity (GPM) \_\_\_\_\_

Pump Depth \_\_\_\_\_ ft. Intake Depth \_\_\_\_\_ ft.

23. Chemical Analysis (When Required):

Iron \_\_\_\_\_ ppm Sulfate \_\_\_\_\_ ppm Chloride \_\_\_\_\_ ppm

☐ Laboratory Test ☐ Field Test Kit

24. Water Well Contractor:

\*Contractor Name DOUGLAS A. LEONHARDT \*License Number 2406 E-mail Address lisa@edsenvironmental.com

\*Contractor's Signature \_\_\_\_\_

(I certify that the information provided in this report is accurate and true.)

\*Driller's Name (Print or Type) GLEN PENNINGTON

2379 BROAD STREET, BROOKSVILLE, FL 34604-6899

WWW.SWFWMD.STATE.FL.US

4049 REID STREET, PALATKA, FL 32178-1429

WWW.SJRWMD.COM

## 152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712

PHONE: (850) 539-5999

WWW.NWFWMD.STATE.FL.US

P.O. BOX 24680

WEST PALM BEACH, FL 33416-4680

PHONE: (561) 686-8800

WWW.SFWMD.GOV

## 9225 CR 49

LIVE OAK, FL 32060

PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)

WWW.MYSUWANNEERIVER.COM

\***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

M=Medium, and C=Coarse)

[illegible]

Comments: \*\*\*\*\* SITE MAP ATTACHED \*\*\*\*\*

**\*Detailed Site Map of Well Location**







STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT,  
REPAIR, MODIFY, OR ABANDON A WELL

- ☐ Southwest  
☐ Northwest  
☒ St. Johns River  
☐ South Florida  
☐ Suwannee River  
☐ DEP  
☐ Delegated Authority (If Applicable)

PLEASE, FILL OUT ALL APPLICABLE FIELDS  
(\*Denotes Required Fields Where Applicable)

The water well contractor is responsible for completing this  
form and forwarding the permit application to the  
appropriate delegated authority where applicable.

Permit No: 140159-1  
Florida Unique ID  
Permit Stipulations Required (See Attached)  
62-524 Quad No. Delineation No.  
CUP/WUP Application No. 2-009-50054-2  
**ABOVE THIS LINE FOR OFFICIAL USE ONLY**

1. **NASA** Mail Code **TA-A4B** **Orlando** **FL** **32899-0001** **3218678415**  
\*Owner, Legal Name if Corporation \*Address \*City \*State \*Zip \*Telephone Number

2. **LC39A, KENNEDY SPACE CENTER, FL**  
\*Well Location - Address, Road Name or Number, City

3. **None. US Govt Owned**  
\*Parcel ID No. (PIN) or Alternate Key (Circle One) Lot Block Unit

4. **3** **22S** **37E** **Brevard** Subdivision Check if 62-524: Yes ☐ No ☒  
\*Section or Land Grant \*Township \*Range \*County

5. **Douglas A Leonhardt** **2406** **4072953532** **doug@edsenvironmental.com**  
\*Water Well Contractor \*License Number \*Telephone Number E-mail Address

6. **4712 Old Winter Garden Rd** **Orlando** **FL** **32811-1740**  
\*Water Well Contractor's Address City State ZIP

7. \*Type of Work: Construction Repair Modification ☒ Abandonment **NO LONGER IN USE**  
Reason for Repair, Modification, or Abandonment

8. \*Number of Proposed Wells **1**

9. \*Specify Intended Use(s) of Well(s):  
Domestic Landscape Irrigation Agricultural Irrigation Site Investigation  
Bottled Water Supply Recreation Area Irrigation Livestock Monitoring  
Public Water Supply (Limited Use/DOH) Nursery Irrigation Test  
Public Water Supply (Community or Non-Community/DEP) Commercial/Industrial Earth-Coupled Geothermal  
Class I Injection Golf Course Irrigation HVAC Supply  
Class V Injection: Recharge Commercial/Industrial Disposal Aquifer Storage and Recovery Drainage  
Remediation: Recovery Air Sparge Other (Describe)  
☒ Other (Describe) **COOLANT TO HYDROGEN BURN POND** (Note: Not all types of wells are permitted by a given permitting authority)

10. \*Distance from Septic System if  $\leq 200$  ft. 11. Facility Description **SHUTTLE LAUNCH COMPLEX** 12. Estimated Start Date **12/08/2014**

13. \*Estimated Well Depth **380** ft. \*Estimated Casing Depth **150** ft. \*Primary Casing Diameter **8** in. Open Hole: From To ft.

14. Estimated Screen Interval: From To ft.

15. \*Primary Casing Material: ☒ Black Steel Galvanized PVC Stainless Steel  
Not Cased Other:

16. Secondary Casing: Telescope Casing Liner Surface Casing Diameter **0** in.

17. Secondary Casing Material: Black Steel Galvanized PVC Stainless Steel Other

18. \*Method of Construction, Repair, or Abandonment: Auger Cable Tool Jetted Rotary Sonic  
Combination (Two or More Methods) Hand Driven (Well Point, Sand Point) Hydraulic Point (Direct Push)  
Horizontal Drilling Plugged by Approved Method ☒ Other (Describe) **PRESSURE GROUT**

19. Proposed Grouting Interval for the Primary, Secondary, and Additional Casing:  
From **0** To **380** Seal Material ( Bentonite ☒ Neat Cement Other )  
From To Seal Material ( Bentonite Neat Cement Other )  
From To Seal Material ( Bentonite Neat Cement Other )  
From To Seal Material ( Bentonite Neat Cement Other )

20. Indicate total number of existing wells on site **1** List number of existing unused wells on site **1**

21. \*Is this well or any existing well or water withdrawal on the owner's contiguous property covered under a Consumptive/Water Use Permit (CUP/WUP)  
or CUP/WUP Application? ☒ Yes No If Yes, complete the following: CUP/WUP No. **2-009-50054-2** District Well ID No. **35273**

22. Latitude **283637.512144** Longitude **803630.04776**

23. Data Obtained From: GPS ☒ Map Survey Datum: NAD 27 ☒ NAD 83 WGS 84

I hereby certify that I will comply with the applicable rules of Title 40, Florida Administration Code, and that a water use permit or artificial recharge permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that information provided in this application is accurate and that I will obtain necessary approval from other federal, state, or local governments, if applicable. I agree to provide a well completion report to the District within 30 days after completion of the construction, repair, modification, or abandonment authorized by this permit, or the permit expiration, whichever occurs first.

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes, to maintain or properly abandon this well; or, I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of his responsibilities as stated above. Owner consents to allowing personnel of this WMD or Delegated Authority access to the well site during the construction, repair, modification, or abandonment authorized by this permit.

**Douglas A Leonhardt** **2406** **NASA** **11/20/2014**  
\*Signature of Contractor \*License No. \*Signature of Owner or Agent \*Date

BELOW THIS LINE - FOR OFFICIAL USE ONLY

Approval Granted By Issue Date **11/25/2014** Expiration Date **11/25/2015** Hydrologist Approval Initials  
Fee Received \$ Receipt No. Check No.

THIS PERMIT IS NOT VALID UNTIL PROPERLY SIGNED BY AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD OR DELEGATED AUTHORITY. THE PERMIT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL CONSTRUCTION, MODIFICATION, OR ABANDONMENT ACTIVITIES.



\*Permit No. \_\_\_\_\_

**SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT**  
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899  
PHONE: (352) 796-7211 or (800) 423-1476  
WWW.SFWMD.STATE.FL.US

**ST. JOHNS RIVER WATER MANAGEMENT DISTRICT**  
4049 REID STREET, PALATKA, FL 32178-1429  
PHONE: (386) 329-4500  
WWW.SJRWMD.COM

**NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT**  
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712  
(U.S. Highway 90, 10 miles west of Tallahassee)  
PHONE: (850) 539-5999  
WWW.NFWMD.STATE.FL.US

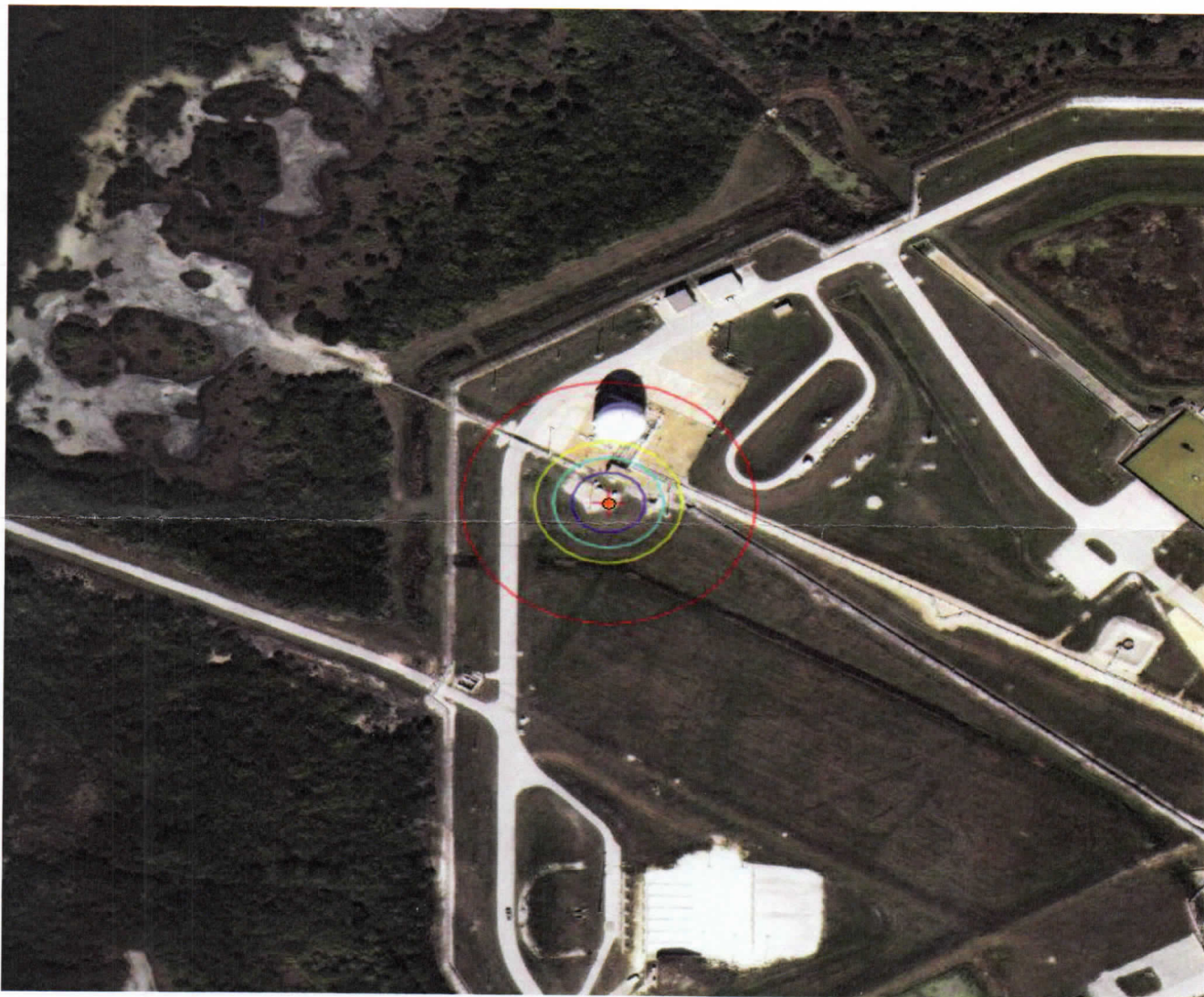
**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**  
P.O. BOX 24680  
3301 GUN CLUB ROAD  
WEST PLAM BEACH, FL 33416-4680  
PHONE: (561) 686-8800  
WWW.SFWMD.GOV

**SUWANNEE RIVER WATER MANAGEMENT DISTRICT**  
9225 CR 49  
LIVE OAK, FL 32060  
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)  
WWW.MYSUWANNEERIVER.COM

Comments:

\*General Site Map of Proposed Well Location

N .



Identify known roads and landmarks. Give distances from all reference points or structures, septic systems, sanitary hazards, and contamination sources, if applicable.  
DEP Form 62-532.900(1) Incorporated in 62-532.400(1), F.A.C. Effective Date: October 7, 2010

**"EXHIBIT A"**  
**CONDITIONS FOR ISSUANCE OF PERMIT NUMBER 140159-1**  
**NASA**  
**DATE ISSUED: November 25, 2014**

1. The well contractor shall notify the District no less than 24 hours prior to initiating construction, repair, abandonment, or grouting operations. The District representative for this permit is:

Jason Sirois  
(321) 409-2122 - work  
(321) 689-7914 - cell  
[jsirois@sjrwmd.com](mailto:jsirois@sjrwmd.com)

2. The well contractor shall remove all obstructions from the well casing and borehole and pressure inject Portland cement grout from the bottom to the top of the well using the tremie method. Changes to this abandonment plan are not authorized unless approved in advance by the District.
3. The well contractor shall clearly label all compliance submittals required as a condition of this permit with the well permit number, District well ID number, and CUP number (if applicable).
4. The well contractor shall post a copy of this permit on-site during all phases of well construction, repair, or abandonment.
5. The well contractor shall implement all control measures necessary to prevent off-site movement of drilling fluids that violate water quality standards set forth in Chapter 62-302, F.A.C.
6. The well contractor shall submit to the District a Well Completion Report in a District-approved format within 30 days of the completion of the construction, repair, or abandonment authorized by this permit.
7. The well owner shall provide District staff access to the well site during all phases of well construction, repair, or abandonment.
8. Issuance of this permit does not relieve the well owner of obtaining any necessary federal, state, local or special District permits or authorizations.
9. The well owner shall obtain District approval of grouting prior to cutting off and burying the plugged well casing.